



**CONTRACT DOCUMENTS & TECHNICAL SPECIFICATIONS
ADDENDUM NO. 3**

**Department of Natural Resources and Environmental Control
Delaware Mosquito Control Section**

**Delaware Mosquito Control Office and Site Improvements
DNREC Fish and Wildlife Contract No. FW-5-17
DFM Project No. MJ400300002**

ADDENDUM NO. 3

Project Name: Delaware Mosquito Control Section
Office and Site Improvements

DFM Project No.: MJ400300002

Contract No.: FW-5-17

Date of Issue: June 17, 2020

Notice No. 1: Attach this addendum to the Project Manual for this project. It modifies and becomes part of the Bidding Documents. Work or material not specifically mentioned herein is to be as described in the main body of the specifications and as shown on the drawings.

Bids Due: June 23, 2020, 1:15 PM EST

Bids will be received by the State of Delaware, Office of Management and Budget, Division of Facilities Management, by either electronic mail or by mail as follows. Bid submissions submitted by electronic mail must be sent to DFM-BID@delaware.gov and a hard copy of the entire submission shall be sent by mail within five (5) business days of the bid submission deadline.

Sealed bids shall be mailed and addressed to the following:

Division of Facilities Management
Thomas Collins Building,
540 S. DuPont Highway, Suite 1 (Third Floor)
Dover, DE 19901

Sealed bids shall be marked as follows:

OMB/DFM CONTRACT NO. MJ4003000002
(DNREC, Division of Fish and Wildlife Number FW-5-17)
**“DNREC, DIVISION OF FISH AND WILDLIFE MOSQUITO CONTROL
BUILDING SEALED BID - DO NOT OPEN.”**

Important Note: Email submission to DFM must not include “Request Deliver Receipt” or “Request Read Receipt.” Emails with these tracking requests will not be delivered.

Bidder bears the risk of late delivery.



GENERAL:

1. Site visits were scheduled for Monday June 15, 2020. The follow participants were in attendance:

- Scott Macknis – Apex Mechanical & Fabrication
- Greg Thompson – Conventiional Builders, Inc
- BJ Fibelkorn – Tudor Electric
- Dan Hanna A-Del Construction
- Ryan Jackson - Amakor
- Bill Booth – Commonwealth Construction
- Mark Talmo – Emory Hill Construction
- Matt Tarr – Guardian Environmental Services
- Corey Nichols – Delmarva Veteran Builders
- Patrick McKenna – Facilities Management
- Paul Guggenberger – Studio Jaed
- Bob Shaffer – RK&K

QUESTIONS:

1. **Question:** Pleas clarify roof framing. Is the insulated panel between two layers of plywood? Is the empty space at the roof block air space? What is and the size of the roof blocking material? What is the size of the sub-Fascia?

Response:

- **Roof framing is pre-engineered wood trusses.**
- **Insulated panel is a pre-engineered ventilated nailbase insulation panel consisting of plywood over air space with wood spacers over polyisocyanurate insulation. The insulated panel is set on plywood sheathing.**
- **Perimeter blocking is 2x6. Coordinate thickness of blocking with profile of ventilated nailbase insulation panel.**
- **Fascia size to be coordinated with profile of ventilated nailbase insulation panel and configuration of pre-engineered wood truss.**
- **See revised drawing A-301, attached.**
- **See Spec Section 07 22 00, attached.**

2. **Question:** Are the interior walls 2x6?

Response: Interior walls are 2x4 wood studs at 16" O.C with 1/2" GWB each side and 3" SAFB.

3. **Question:** What is size of window and door headers?

Response: Exterior door and window headers shall be as follows:

- **Windows & Doors up to 4' wide: (2) 2x8 min.**
- **Entry Door: (2) 2x12 min.**



4. **Question:** Please clarify the portico structure. What are the beam sizes? Is roof framing to be trusses?
Response: See revised drawing A-401, issued with Addendum 2.
5. **Question:** Please clarify locking hardware for storefront door 100.
Response: See revised Spec Section 08 71 00, issued with Addendum 2.
6. **Question:** Are standard GAF Timberline HD shingles acceptable in lieu of GAF Timberline HD Reflector Series? Certaineed Independence shingles have been discontinued.
Response: Shingles shall be GAF Timberline HD series, or architect approved equivalent.
7. **Question:** Would the State consider a post-frame structure (pole building) as a viable construction method?
Response: No.
8. **Question:** Are the letters shown on A-201 Front (South) Elevation part of the scope? If so, we would need a specification.
Response: Include a \$2,000 allowance in the bid for exterior signage and installation. See revised Spec Sections, 00 41 13 and 01 21 00, attached.
9. **Question:** Can Lennox be added to the list of manufacturers for 23 73 13 – Air Handling Units?
Response: Yes. Lennox is added to the list of acceptable manufactures in spec section 27 73 13, paragraph 2.01.
10. **Question:** What is the protocol in the event we encounter contaminated soil?
Response: It is not anticipated that the contractor will encounter contaminated soils. However, the contractor is to follow the soil re-use policy and the utility CMMP. Both of which are available on DNREC's website. If contaminated soil is encountered the contractor shall store on site and follow the steps outlined in the soil re-use policy and utility CMMP, and contact DNREC. DNREC will be responsible for removing any contaminated soils that may be encountered. Any non-contaminated excess shall become the property of the contractor and disposed of properly. The cost of any additional testing that may be required by a disposal site shall be at the contractor's expense, and shall be included in the contractor's lump sum bid.
11. **Question:** Where is the closest facility near Milford which can handle the contaminated soil?
Response: It is not anticipated that the contractor will encounter contaminated soils. However, the contractor is to follow the soil re-use policy and the utility CMMP. Both of which are available on DNREC's website. If contaminated soil is encountered the contractor shall store on site and follow the steps outlined in the soil re-use policy and utility CMMP, and contact DNREC. DNREC will be responsible for removing any contaminated soils that may be encountered. Any non-contaminated excess shall become the property of the contractor and disposed of properly. The cost of any additional testing that may be required by a disposal site shall be at the contractor's expense, and shall be included in the contractor's lump sum bid.
12. **Question:** Is the joint at the intersection a butt joint or overlap?
Response: The joint at the intersection shall be a butt joint. Additionally the limits of the paving have been revised to meet the recently constructed overlay of Airport Road.



13. **Question:** Rip-rap is illustrated on the civil drawing in the parking area. Should that be DOT 57 stone?
Response: Please construct using R-4 rip-rap as shown on the plans.
14. **Question:** Is there an alarm to signal failure of the grinder pump?
Response: An alarm panel is to be provided with the grinder pump and is to be mounted on the rear of the new office building. Provide 2" underground conduit from grinder pump to alarm panel. Provide power service to alarm panel. Provide all components required for a complete functioning grinder pump and alarm system.
15. **Question:** Is Contractor to provide security fence around the work area?
Response: Yes. Provide security fence per spec 01 50 00, paragraphs 3.3.Q and 3.3 R.
16. **Question:** Water lines were noted above the electrical panels. How will this situation be addressed?
Response: Provide weatherproof hood over electric panels. See revised drawings E-100, E-500, and E-600 attached.
17. **Question:** Addendum #2- DWG E100, site plan shows the feeder for panel "PLA" to be 2-sets of 4/0 in a 4" conduit. DWG E600 single line shows that feeder as 4-500mcm in a 4" conduit. Please advise.
Response: DWG E-600 single line diagram shows the correct feeder size. See revised drawing E-100 attached.
18. **Question:** 1. Electrical; Wire size is conflicting on service to new building panel P1A, seems excessive for 250A feeder, please clarify which is correct.
Response: Wire size is correct based on loads and distance.
19. **Question:** Sheet C6.01, calls for 1 ½" Class 50 DIP, DIP does not come in 1 ½" size. What type of pipe should be used?
Response: The water line has been to revise to 3/4" Copper, Class K.
20. **Question:** Sheet C6.01, calls for 1 ½" Class 50 DIP, DIP does not come in 1 ½" size. What type of pipe should be used?
21. **Question:** Will any excess dirt have to be hauled off site, if so is this dirt contaminated? Where will the dirt be hauled to?
Response: It is not anticipated that the contractor will encounter contaminated soils. However, the contractor is to follow the soil re-use policy and the utility CMMP. Both of which are available on DNREC's website. If contaminated soil is encountered the contractor shall store on site and follow the steps outlined in the soil re-use policy and utility CMMP, and contact DNREC. DNREC will be responsible for removing any contaminated soils that may be encountered. Any non-contaminated excess shall become the property of the contractor and disposed of properly. The cost of any additional testing that may be required by a disposal site shall be at the contractor's expense, and shall be included in the contractor's lump sum bid.



DRAWINGS:

Sheet C-4.00 – Site Plan (Revised drawing C-4.00 is attached.)

1. Added screen wall to the contract.
2. Revised mill and overlay limits at the intersection.

Sheet C-4.02 – Site Plan (Revised drawing C-4.00 is attached.)

1. Added screen wall to the contract.

Sheet C-6.01 – Site Plan (Revised drawing C-4.00 is attached.)

1. Revised 1 ½" DIP water line to 1 ½" Copper Class K.
2. Added Alarm Panel for the grinder pump.

Sheet C-4.02 – Site Plan (Revised drawing C-4.00 is attached.)

1. Added Alarm Panel for the grinder pump.
2. Grinder Pump controls to be Hard Wired. (DH152)

Sheet A-102 – FLOOR PLANS (Revised drawing A-102 is attached.)

1. Added Construction Notes.

Sheet A-301 – SECTIONS AND DETAILS (Revised drawing A-301 is attached.)

1. At WALL SECTIONS 2, 2-ALT, 3 and 3-ALT, revised note to clarify Vented Nailbase Insulation Panels.

Sheet P-101 – PLUMBING PLANS (Revised drawing P-101 is attached.)

1. Add feed for new two remote mounted hose bibs.
2. Add backflow preventer at incoming water service line.

Sheet E-100 – ELECTRICAL SITE PLAN (Revised drawing E-100 is attached.)

1. Added weatherproof hood over electrical panels.
2. Added panel locations to plan of new building.
3. Updated wiring from panel MDP to panel PLA to match the wire size in the single line diagram.

Sheet EP101 – ELECTRICAL FLOOR POWER PLAN (Revised drawing EP101 is attached.)

1. Added panel locations to plan of new building.

Sheet E-500 – ELECTRICAL DETAILS (Revised drawing E-500 is attached.)

1. Added weatherproof hood detail.

Sheet E-600 – ELECTRICAL DETAILS (Revised drawing E-600 is attached.)

1. Updated single line diagram note to specify wire splicing at the junction box.

BID FORM

For Bids Due: _____

To: Dept. of Natural Resources and Environmental Control

Division of Fish and Wildlife

89 Kings Highway; Dover, DE 19901

Name of Bidder: _____

Delaware Business License No.: _____ **Taxpayer ID No.:** _____

(A copy of Bidder's Delaware Business License must be attached to this form.)

(Other License Nos.): _____

Phone No.: () -

Fax No.: () -

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____
(\$ _____)

ALTERNATES

ALTERNATE NO. 1: ADD CASEWORK AT BREAKROOM

Add: _____
(\$ _____)

ALTERNATE NO. 2: ADD CASEWORK AT STORAGE ROOM

Add: _____
(\$ _____)

ALTERNATE NO. 3: PROVIDE METAL PANEL SIDING IN LIEU OF VINYL SIDING

Add: _____
(\$ _____)

ALTERNATE NO. 4: PROVIDE METAL PANEL ROOFING IN LIEU OF ASPHALT SHINGLES

Add: _____
(\$ _____)

UNIT PRICES

There are no unit prices.

ALLOWANCES

Allowances are included as follows:

Allowance No. 1: \$20,000 for general contingencies and repairs, any remaining balance of which is to be returned to owner by credit change order at project completion.

(Initial)

Allowance No. 2: \$ 2,000 for exterior building signage contingency including cost of sign and installation, any remaining balance of which is to be returned to owner by credit change order at project completion.

(Initial)

BID FORM

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for thirty (30) days from the date of opening of bids (60 days for School Districts and Department of Education), and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within _____ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)
Date: _____

ATTACHMENTS

Sub-Contractor List
Non-Collusion Statement
Affidavit(s) of Employee Drug Testing Program
Bid Security
(Others as Required by Project Manuals)

BID FORM

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more than three (3) third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (*) next to any additional third-tier contractors, and submit it with your bid.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax-payer ID # or Delaware Business license #</u>
1.			
A.			
B.			
C.			
2.			
A.			
B.			
C.			

BID FORM (Continued)

3.			
A.			
B.			
C.			
4.			
A.			
B.			
C.			
5.			
A.			
B.			
C.			

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

BID FORM
NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the Office of Management and Budget, Division of Facilities Management.

All the terms and conditions of **FW-5-17** have been thoroughly examined and are understood.

NAME OF BIDDER: _____

**AUTHORIZED REPRESENTATIVE
(TYPED):** _____

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):** _____

TITLE: _____

ADDRESS OF BIDDER: _____

E-MAIL: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Contingency allowances.
- C. Related Requirements:
 - 1. Section 012200 "Unit Prices" for procedures for using unit prices.
 - 2. Section 014000 "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.

1.2 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect/Engineer for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. The indicated Contingency Allowance shall be included in the base bid.
- C. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.3 ALLOWANCE AUTHORIZATION

- A. Allowance Authorization: Any use of the Owner's Contingency Allowance shall be first approved by the Owner via the ALLOWANCE AUTHORIZATION form.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

- A. Allowance Schedule:
 - 1. Allowance No. 1: Owner's Contingency. \$20,000.
 - 2. Allowance No. 2: Exterior Building Signage Contingency. \$ 2,000.

SECTION 07 22 00
VENTILATED NAILBASE INSULATION PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Section includes ventilated nailbase insulation panel system.

1.2 RELATED SECTIONS

- A. Section 06 10 00 – Rough Carpentry
- B. Section 07 31 13 – Asphalt Shingles.

1.3 REFERENCES

- A. ASTM C 209 – Methods of Testing Insulating Board, Structural and Decorative.
- B. ASTM C 1289 – Specifications for Faced Rigid Cellular Polyisocyanurate Thermal Insulating Board.
- C. ASTM D 1621 – Test Methods for Compressive Properties of Rigid Cellular Plastics.
- D. ASTM D 2126 - Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.
- E. ASTM E 84 – Surface Burning Characteristics of Building Materials.
- F. ASTM E 96 - Test Method for Water Vapor Transmission of Materials.
- G. UL 1256 - Fire Test of Roof Deck Constructions.
- H. PS2-92 - Performance Standard for Wood-based Structural-use Panels.
- I. Miami Dade Product Control – Notice of Acceptance NOA No. 14-0505.08

1.4 SYSTEM DESCRIPTION

- A. Physical properties (Foam Core):
 - 1. Manufactured using 3rd Generation Zero ODP, EPA Compliant Blowing Agent; Contains zero CFCs, HCFCs, or HFCs; Virtually no Global Warming Potential (GWP)
 - 2. Compressive Strength: ASTM D 1621 and ASTM C 1289, Type V, Class 1, 20 psi (138 kPa) minimum for Grade 2 and 25 psi (172 kPa) minimum for Grade 3.
 - 3. Also Available ASTM C 1289, Type V, Class 2, 20 psi (138 kPa) minimum for Grade 2 and 25 psi (172 kPa) minimum for Grade 3.
 - 4. Dimensional Stability: ASTM D 2126, 2 percent linear change (7 days).
 - 5. Moisture Vapor Transmission: ASTM E 96, < 1 perm ((57.5ng/(Pa*s*m2))).
 - 6. Water Absorption: ASTM C 209, < 1 percent by volume.
 - 7. Service Temperature: Minus 100 degrees to 250 degrees F (minus 73 degrees C to 122 degrees C).
 - 8. Foam core flame spread index of 75 or less and smoke developed of 450 or less when tested in accordance with ASTM E 84.

- B. Foam Core R Values: Based on LTTR (Long Term Thermal Resistance) in accordance with ASTM C 1289.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Manufacturer's data sheets on nailbase insulation panels and fasteners to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, representing actual product.
 - 1. Submit 6 by 6 inch (152 mm by 152 mm) samples of each board type required.
 - 2. Submit samples of each fastener type required.
- D. Manufacturer's Certificate: Certify ventilated nailbase insulation panels will conform to specified performance requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in accordance with the manufacturer recommendations.
- B. Store product on a solid flat foundation and elevate a minimum of 2" above the finished surface.
- C. Slit the bundle packaging vertically down the center of the two short sides and cover with a waterproof tarpaulin
- D. Protect insulation from open flame and keep dry at all times.

1.7 PROJECT CONDITIONS

- A. Install only as much insulation as can be covered the same day by a completed roof covering material.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements of the specification, products from the following manufacturers may be provided.
 - 1. GAF, Cornell, ThermaCal 1
 - 2. Hunter Panels, Cool-Vent
 - 3. Kurt Building Materials, TechVent Pro Polyiso
 - 4. Architect Approved Equivalent

2.2 PANEL CONSTRUCTION

- A. Panels shall consist of a top layer of APA/TECO rated Oriented Strand Board (OSB) or 5-ply CDX plywood, a middle layer of vented air space consisting of 1 inch (25.4 mm) thick wood spacers and a bottom layer of fiber-reinforced facers (GRF) polyisocyanurate foam insulation. Also available with coated glass facers (CGF) polyisocyanurate foam insulation.

1. Polyisocyanurate foam insulation shall conform to ASTM C 1289, Type V.
 2. Compressive Strength: 20 pounds per square inch (138 kPa) Grade 2.
 3. Compressive Strength: 25 pounds per square inch (172 kPa) Grade 3
 4. Multiple top layer substrate shall conform to PS2 and shall be as follows:
 - a. OSB:
 - 1) Type:
 - (a) Standard sheathing grade.
 - 2) Thickness:
 - (a) 7/16 inch (11.1 mm).
 - (b) 5/8 inch (15.9 mm).
 - b. 5-ply CDX Plywood:
 - 1) Type:
 - (a) Standard sheathing grade.
 - (b) Fire-treated sheathing grade.
 - 2) Thickness:
 - (a) 5/8 inch (15.9 mm).
 - (b) 3/4 inch (19.1 mm).
- B. Vented airspace shall be a minimum of 1 inch (25 mm) in depth and provide not less than 92 percent overall free air movement through the panel. It shall have 55 percent or greater lateral free air movement. Panels shall be manufactured to provide cross directional ventilation without additional material being incorporated into the construction.
- C. Panel with wood nailable surface as specified shall be factory rabbetted 1/8 inch (3.2 mm) on all sides to provide for expansion of substrate.

2.3 PANEL TYPE

- A. Cool-Vent Panels: 4 feet by 8 feet (1220 mm by 2440 mm) with multiple top layer surface of 5/8 inch (15.9 mm) OSB or 5-ply CDX plywood and a vented airspace of 1 inch (25 mm). Panel shall have an R-value as follows:
1. Minimum R-Value: 25.
 2. Where manufactured panel does not achieve specified R-Value, Contractor shall provide additional layer(s) of polyisocyanurate insulation above roof sheathing and below vented nailbase insulation panel to achieve the total specified R-Value.

2.4 PANEL FASTENERS

- A. Fasteners shall be manufacturer approved panel fasteners for plywood deck application. Fasteners have a 3/16 inch (5 mm) shank, and are corrosion resistant with oversized heads. Length of fasteners shall be as recommended by Hunter Panels. Use of 2 inch (51 mm) round plates are not required. See the Hunter Panels application guide for instructions.
1. Fasteners shall penetrate the plywood deck a minimum of 1 inch (25 mm).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until structural deck has been properly prepared.
- B. Verify deck, adjacent materials, and structural backing is dry and ready to receive insulation.
- C. Verify deck surface is flat, free of fins or protrusions and irregularities.

- D. If deck preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Apply vapor barrier and or retarder, as specified by the Architect or required by the local building code, to decking prior to the installation.
- B. Apply proper ridge and soffit vents to create an effective eave to ridge venting system in conjunction with Cool-Vent.

3.3 INSTALLATION

- A. Install panels with the wood (OSB/Plywood) side face up. Place panels in the manufacturers recommended pattern. Only factory assembled panels will be accepted. Fasten panels through the top nailable surface and also through the wood block panel spacers using Hunter Panels approved threaded fasteners.
- B. For multiple layered installations, install the base layer of panels loose-laid, and stagger the joints of subsequent layers in accordance with good roofing practice.
- C. For roof slopes up to 7/12 pitch, 7 inches (178 mm) rise in 12 inches (304 mm), the minimum number of fasteners shall be 18 per 4 foot by 8 foot (1220 mm by 2440 mm) panel.
- D. For roof slopes over 7/12 pitch, 7 inches (178 mm) rise in 12 inches (304 mm), the minimum number of fasteners shall be 24 per 4 foot by 8 foot (1220 mm by 2440 mm) panel.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Cover the top and edges of unfinished roof panel work to protect it from the weather and to prevent accumulation of water in the cores of the panels.
- C. Do not leave panels exposed to moisture. Wet panels shall be removed or allowed to completely dry prior to application of vapor barrier and/or roof covering.
- D. Apply only enough insulation panels per day that can be covered the same day by a completed roof covering material.

END OF SECTION



SPECIFICATIONS:

00 41 13 BID FORM (Revised spec section 00 41 13 is attached.)

1. Added Allowance 2 for exterior building signage.

01 21 00 ALLOWANCES (Revised spec section 01 21 00 is attached.)

1. Added Allowance 2 for exterior building signage.

06 12 19 STRUCTURAL INSULATED PANELS

1. Delete this spec section in its entirety.

07 22 00 VENTED NAILBASE INSULATION PANELS (New spec section 07 22 00 is attached.)

1. Add new spec section 07 22 00.

23 73 13 AIR HANDLING UNITS (Spec Section is not reissued at this time.)

1. Add paragraph 2.01.D to read as follows:

"D. Lennox."

ADDITIONAL INFORMATION:

None

END